

Title: Looking for responsible consumers: emotions as a driver of sustainable decisions

Abstract:

Despite the efforts to increase sustainable consumption among consumers, the complexity of the consumers' decisions requires a greater effort to fully understand the nuances of these behaviours. Among sustainability studies in different disciplines, a line of research has focused on spillover effects, which claim that consumers (non) pro-environmental behaviours (PEB) may have an impact on later consumer decisions. Additionally, extant literature has demonstrated the role of emotions in consumers' decisions, with the so-called mood management pushing consumers to work for positive mood and avoid negative mood. This phenomenon has not been studied in the domain of sustainability yet, so we propose to study the role of emotions to better understand how the spillover effects occur. We carried out an experiment where participants experienced 2 online shopping decisions in two different times with two different categories (cloth and restaurant). Data collection of 244 participants allow us to shed some light on the influence of (non) sustainable decisions on consumers' emotions (positive and negative ones) as well as consumers attitude, future intentions, and willingness to pay.

Keywords: emotion regulation, sustainable consumption, attitude, PEB, experiment

1. Introduction

One of the biggest challenges in marketing nowadays is encouraging sustainable consumption among consumers (Phipps et al., 2013; White et al., 2019; Xu et al., 2020). Not only there is an urgent demand for sustainability from governments and non-profit organisations, but also private companies acknowledge the need to embed sustainability in their core activities. Early research on sustainability found that positive attitudes do not necessarily translate into sustainable consumption behaviours since there is an attitude-behaviour gap (Yamoah & Acquaye, 2019; Lee et al., 2020). But even among consumers showing PEB rebound and spillover effects exist. Recent research on PEB emphasise the need to consider those spillover effects (Clot et al., 2022), which are behavioural adjustments that reduce the potential benefits of PEB (e.g., Dütschke et al., 2021; Sorrell et al., 2020; Reimers et al., 2022). More specifically, research from Dreijerink et al., (2021), Nilsson et al. (2017) and Sorrel et al. (2020) recommend focusing the attention on understanding how and why spillover effects occur. Despite the effort from previous studies trying to understand the inconsistencies of consumer behaviours (e.g., Dreijerink et al., 2021), more research is needed. While most of the studies focus on what happens after a PEB, this research focuses on what happens after a non-PEB. More specifically, this research takes a different perspective, as we understand that spillover effects can also arise from non-sustainable behaviours. The objective of this research is to understand the role that emotions and negative sustainability information play on future purchase decisions. To accomplish this goal, the next section presents the literature review and theoretical framework. Then, the hypotheses are introduced. Later, the methodology for a between subjects experiment is explained, followed by the analysis of the data. Finally, we include the conclusions and some managerial implications.

2. Literature review and theoretical framework

Previous studies have identified different theories that explain PEB and spillover effects (see Table 1). Most of these theories help to explain why individuals, despite having moral values and pro-social norms, do not always act according to those values and norms, leading to behavioural inconsistencies.

Table 1. Theories used to explain spillover effects and PEB

Theory's name (Authors, year)	Explanation
Heider's balance theory (Heider, 1958)	States of imbalance create stress and uncomfortable feelings. Tension arises so forces appear to annul that tension.
Diffusion of responsibility (Darley and Latané, 1968)	Decrease in the feelings for personal responsibility if the person believes that others are potentially responsible. The reference point for the ascription of responsibility are other agents.
Norm-activation model (NAM) Schwartz, 1977	The model describes the cognitive process from the perception of a person in need, the formation and activation of a personal norm, to the performance of an action.
Moral balance model (Nisan, 1990)	Moral decisions are affected by evaluations of a person's moral self that is based on all his/her morally relevant actions within a given time span.
Moral licensing (Miller and Effron, 2010)	People may feel allowed to act immorally after an initial moral act. In this process, people are allowed to take an action or express a thought without fear of discrediting themselves

Conscience accounting (Gneezy et al., 2014)	Debits accumulated from misdeeds can be offset by credits gained by good deeds and vice versa. Offsetting occurs within but also across domains
Moral cleansing (West & Zhong, 2015)	"... describes behaviours aimed at restoring moral self-worth in response to past transgressions" (p. 221)

While both moral licensing and conscience accounting have been used to explain negative spillover¹, conscience accounting is also relevant for positive spillover². Moral balance model, conscience accounting and moral cleansing are all relevant to study the succession of behaviours that could lead consumers from non-sustainable behavioural decisions to PEB and vice versa.

Although previous research suggest that emotions can play a relevant role on PEB (White et al., 2019), the results are not conclusive. According to the mood management theory (Zillmann & Bryant, 1985), "individuals are motivated to terminate or alleviate negative affective states and to preserve and intensify positive affect" (Reinecke, 2017, p.1). As such, we may assume that non-sustainable decisions, once acknowledged, may elicit negative emotions in the consumer, making him/her look for emotional regulation, that is, avenues to shift from negative to positive mood. The prospect of a sustainable decision in the future provides the individual with an opportunity to restore his/her feelings. Based on that rationale, we predict that a non-sustainable decision will elicit negative emotions and reduce positive emotions in the consumer (H1) and will also prompt sustainable decisions as a mechanism to restore the positive mood (H2) and assess the decision more positively (H3). Formally, we propose that:

H1. Consumers faced with non-sustainable purchases tend to experience (a) more negative emotions and (b) fewer positive emotions, than those consumers who do not have information about the sustainability of the purchase.

H2. Consumers who made a non-sustainable purchase in the past tend to experience (a) more positive emotions and (b) fewer negative emotions about a subsequent sustainable purchase, than those consumers who do not have information about the sustainability of their past purchase.

H3. Consumers who made a non-sustainable purchase in the past will have (a) a more favourable attitude, (b) a greater purchase intention and (c) a greater willingness to pay for a possible subsequent sustainable purchase, than those who do not have information about the sustainability of their past purchase.

3. Methodology

Pretest

The manipulation was tested with 185 University students (46.5% males). In the experiment participants faced two purchases. In the first one (time 1), there was an online purchase of clothes and, after that, a booking in a restaurant (time 2). A 3x2 between subjects experiment

¹ After adopting a particular pro-environmental behaviour, the probability of an individual adopting another pro-environmental behaviour declines (Dreijerink et al., 2021)

² When the adoption of a particular pro-environmental behaviour is found to increase a person's inclination to engage in another pro-environmental behaviour (Dreijerink et al., 2021)

was designed in which the variables manipulated were the companies' sustainability (cloth company and restaurant). When describing the purchase, we manipulated information about sustainability practices from the companies. Since we wanted to test when it was better to introduce the information about the non-sustainability of the practices of the first purchase (cloth company), in a first condition participants were given no information, in a second condition participants were given the non-sustainability information after the purchase, and in the third condition participants were given the information before the purchase. As for the subsequent purchase (restaurant), there were two scenarios (non-sustainable restaurant vs sustainable restaurant). We measured the perceived level of sustainability of both companies and the credibility of both scenarios with 7-point Likert scales. One-way ANOVA showed that for perceived sustainability at moment t1 (cloth company), the difference between no sustainability information ($M_0=3.38$) sustainability information after the purchase ($M_1= 1.67$), and sustainability information before the purchase ($M_2= 1.79$) were significant ($F(2,182)=33.16$, $p<.001$). As expected, post-hoc Tukey testing showed significant effects between non sustainable information and the other two scenarios, but not between non sustainable information before and non-sustainable information after. As for the restaurant (t2), a one-way ANOVA also showed that the difference in the perceived sustainability between no information about sustainability ($M_0= 3.91$) and sustainability information ($M_1=6.31$) was significant ($F(1, 183)= 154.58$, $p <.001$). Credibility of the cloth purchase scenario in the condition of no information ($M_0= 5.64$) was higher than for the conditions of information after the purchase ($M_1=4.67$) and before the purchase ($M_2=4.48$), with $F(2,182)= 10.3$, $p<.001$), nevertheless all of them were higher than 4. Despite the significant differences, the level of credibility is considered acceptable (greater than 4). Given this result and that of perceived sustainability, we decided to eliminate the "sustainability information before the purchase" scenario for the first study. Credibility of the restaurant booking scenarios was high with no significant differences ($F(1,182)=3.69$, $p=.064$) between the no-information restaurant ($M_0=5.74$) and the sustainable restaurant ($M_1=5.36$). In sum, the design for the manipulation appeared to be appropriate.

Study 1

Based on the hypotheses and the pretest, we designed a 2 (a previous purchase with no information about sustainability of the product vs a previous purchase with information about non-sustainability of the product) x 2 (non-sustainable vs sustainable new purchase) between subjects experiment. The experiment was settled in an online context since nowadays consumers buy clothes online and check restaurants online before booking them. We used a panel from a research company to get 244 participants, who were randomly assigned to one of the four conditions. Participants agreed with the informed consent before starting the questionnaire.

First, participants were exposed to a cloth buying situation in which they had to imagine it was their birthday and were looking for a piece of cloth for themselves, and that, after checking on the Internet, they found a couple of items they loved from an unknown brand that they finally bought. In one scenario of this previous purchase, they were given no additional information about product sustainability, while in the second scenario, they were informed that after the purchase they looked for additional information about the company and discovered that to produce those cloths the company used highly toxic products and consumed the water equivalent to the one needed for a person for 5 years. Then they reported their emotions (five positive emotions and five negative emotions). In a second step, we also presented the

subjects a situation in which, because of their birthday, they were looking for a restaurant to celebrate it. Then, they saw a screenshot of a section of a fictitious restaurant website. In one scenario, the restaurant was described as non-sustainable, while in the other scenario, the restaurant was described as sustainable. Then, subjects were asked about their intention to book that restaurant, how much they will be willing to pay (minimum and maximum) knowing the restaurant price range (reference prices), their emotions (5 positive and 5 negative), as well as other demographic and control variables (product involvement for each decision).

We measured the realism and credibility of the scenarios with two 7-point Likert scale items at the end of the questionnaire. Computing an average of both items, we obtained a reliable measure of credibility and realism for the cloth scenario ($\alpha = .795$) and the restaurant scenario ($\alpha = .836$). The means for the four scenarios was above the mid-point of the scale, showing high credibility ($M_{\text{cloth with no information (CloNI)}} = 5.20$, $M_{\text{cloth with non-sustainable information (CloNS)}} = 5.13$, $M_{\text{restaurant with non-sustainable information (RestNS)}} = 4.90$, $M_{\text{restaurant with sustainable information (RestS)}} = 5.28$).

The manipulation of the information was tested using the same items as in the pretest. The results showed that participants in the no-information condition perceived the cloth company as more sustainable ($M_0 = 3.69$) than the company in the non-sustainable condition ($M_1 = 1.81$, $t = 9.77$, $p < .001$). As for the restaurant, participants perceived the non-sustainable condition as less sustainable ($M_0 = 3.53$) than the sustainable condition ($M_1 = 5.96$, $t = -13.61$, $p < 0.01$). These results confirm the suitability of the scenarios.

4. Results

We used a sample with 244 participants (49.6% males, age mean = 41 years old) to test the hypotheses. A one-way Anova for positive emotions after the first scenario (cloths purchase) revealed a significant effect of sustainability ($F(1, 242) = 393.88$, $p < .001$), with those who had no information showing more positive emotions ($M_{\text{CloNI}} = 4.98$) than those who were exposed to non-sustainable information ($M_{\text{CloNS}} = 1.93$). For the negative emotions we also found a significant effect of sustainability ($F(1, 242) = 311.3$, $p < .001$), with those who had no information showing less negative emotions ($M_{\text{CloNI}} = 1.93$) than those who had non-sustainable information ($M_{\text{CloNS}} = 4.95$). These results confirm H1.

A two-way Anova served to test H2 with sustainability of the first purchase (cloth scenario) and sustainability of the second purchase (restaurant) as factors. For positive emotions in the restaurant decision, the results showed a main effect of sustainability of the restaurant ($F(1, 240) = 28.96$, $p < .001$), no effect of sustainability of the first purchase ($F(1, 240) = 0.01$, $p > .05$), but a significant interaction effect ($F(1, 240) = 7.67$, $p < .01$).

Participants with a purchase in a non-sustainable restaurant showed lower positive emotions ($M_{\text{restNS}} = 4.09$), than those that purchased in a sustainable restaurant ($M_{\text{restS}} = 5.06$). Pairwise comparisons for the interaction effect showed that when there was no information about the cloth sustainability, there was no difference ($p > .05$) in the level of positive emotions between those with a non-sustainable restaurant ($M_{\text{cloNI} \times \text{restNS}} = 4.35$) and those with a sustainable restaurant ($M_{\text{cloNI} \times \text{restS}} = 4.82$) (see Figure 1, Appendix). Meanwhile, when they had previously experienced a non-sustainable cloth scenario, those with a sustainable restaurant showed more positive emotions ($M_{\text{cloNS} \times \text{restS}} = 5.29$) than those with a non-sustainable restaurant ($M_{\text{cloNS} \times \text{restNS}} = 3.83$, $p < .001$). For the negative emotions associated to the restaurant decision, the Anova showed a main effect of sustainability of the restaurant decision ($F(1, 240) = 12.25$, $p < .001$), though there was no effect with the sustainability of the cloth purchase ($F(1, 240) = 0.21$, $p > .05$) and neither an interaction effect ($F(1) = 0.67$, $p > .05$). Participants exposed to a non-

sustainable restaurant showed higher negative emotions ($M_{\text{restNS}} = 2.76$), than those exposed to a sustainable restaurant ($M_{\text{restS}} = 2.08$) (see Figure 2, Appendix). Then, these results partially support H2.

A Manova and follow-up Anovas were conducted to test H3. Participants' gender, age, cloth involvement and restaurant involvement were used as covariates and dropped from the reported analysis since they did not statistically influence the result. Four dependent variables were included in the analysis (attitude towards the restaurant, intention to book the restaurant, and willingness to pay with two measures: the difference between the minimum prices (minimum reference price – minimum willing to pay), and difference between the maximum prices (maximum reference price - maximum willing to pay). A 2 x 2 Manova yielded a significant effect of the restaurant sustainability ($F(4,237)=12.74$, Wilk's $\lambda = .82$, $p < .001$) and the interaction ($F(4,237)=2.93$, Wilk's $\lambda = .95$, $p < .05$) while the sustainability of the cloth was not significant. The results for each dependent variable did not support the effect of any of the factors on the two variables related to willingness to pay. Then, follow-up Anovas were conducted for attitude towards the restaurant and intention to book. The results showed that restaurant sustainability ($F(1,240)=47.90$, $p < .001$) and the interaction ($F(1, 240)=10.41$, $p < .01$) had significant impact on attitude. The attitude towards the restaurant was lower when it was described as non-sustainable ($M_{\text{restNS}} = 4.45$) than when described as sustainable ($M_{\text{restS}} = 5.59$, $p < 0.1$). Pairwise comparison also showed that those with no information about the cloth sustainability had a lower attitude towards the restaurant if the restaurant was non-sustainable ($M_{\text{cloNI} \times \text{restNS}} = 4.76$, $p < .05$) than those with a sustainable restaurant ($M_{\text{cloNI} \times \text{restS}} = 5.37$). When they had faced a non-sustainable cloth scenario, the attitude towards the restaurant was significantly higher for those in the condition of a sustainable restaurant ($M_{\text{cloNS} \times \text{restS}} = 5.82$) than those with a non-sustainable restaurant ($M_{\text{cloNS} \times \text{restNS}} = 4.15$, $p < .001$) (see Figure 3, Appendix). As for intention to book the restaurant, only restaurant sustainability showed a significant effect ($F(1,240)= 17.71$, $p < .001$). Those in the no sustainable restaurant scenario were less likely to book the restaurant ($M_{\text{restNS}} = 4.14$) than those in the sustainable restaurant scenario ($M_{\text{restS}} = 4.89$, $p < .001$). Therefore, H3 is partially supported.

5. Conclusions

From an academic perspective, these results suggest that consumers show conscience accounting across domains. Following Nilson et al.'s (2017) suggestion, the measurement of emotions allowed us to confirm that a cognitive dissonance process is experienced by consumers. We can conclude that non-sustainable decisions come at an emotional cost. Those consumers with a non-sustainable previous purchase situation feel more positive emotions when offered a sustainable option afterwards, as it allows for emotion management. Results confirm that consumers' previous purchases have an impact on future purchases, becoming apparent not only in their emotions but in their attitude towards the brands. Not all relations were confirmed, which opens avenues for further research. Intention to book on the restaurant was only affected by the sustainability of the restaurant but not by the previous purchase experience. Moreover, we did not find an effect on the willingness to pay more for the sustainable restaurant. Measurement issues may lie behind this unexpected result and asks for more research on the topic.

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Appendix

Figure 1. Estimated Marginal Means Positive Emotions

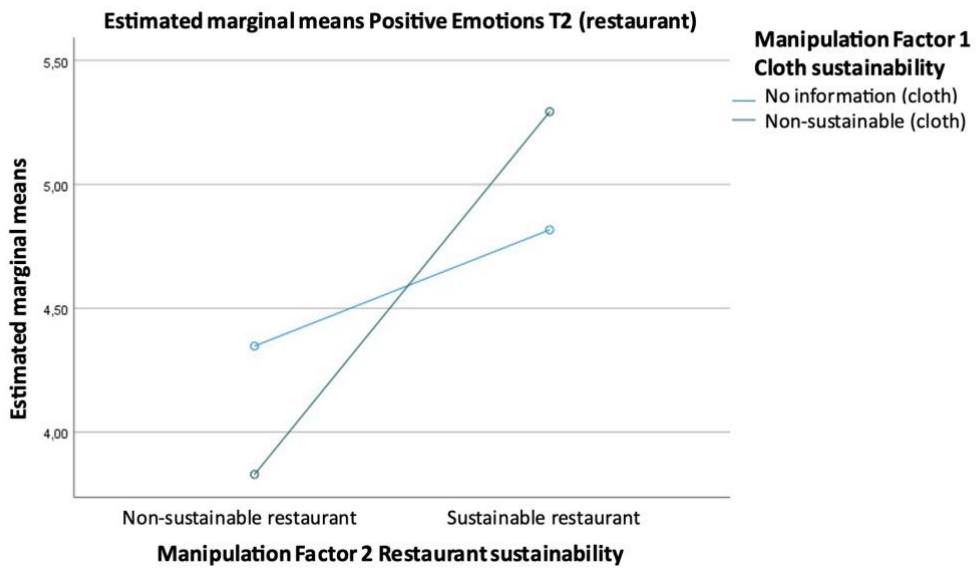


Figure 2. Estimated Marginal Means Negative Emotions

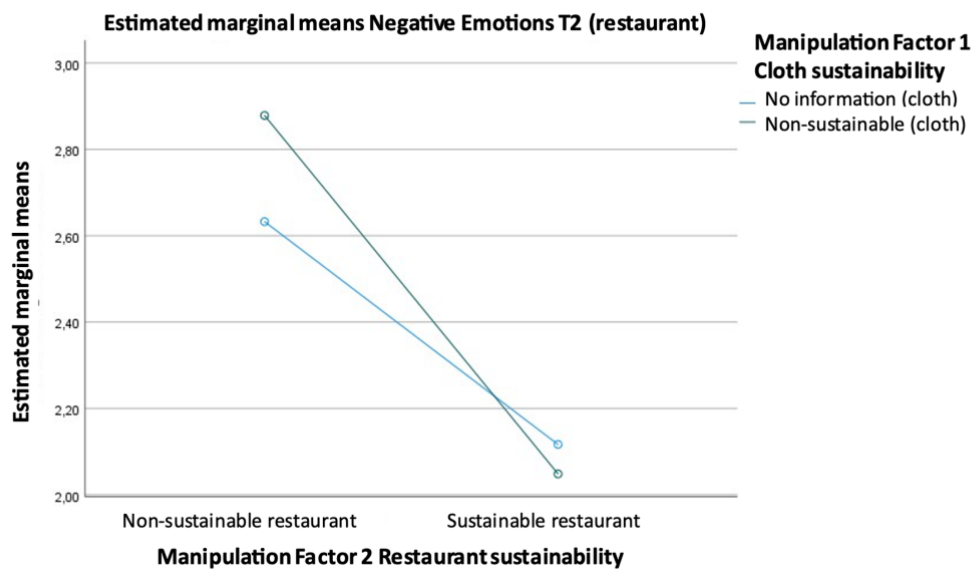


Figure 3. Estimated Marginal Means Attitude towards the restaurant

